



AstraZeneca

Industry:

Pharmaceuticals / Life sciences

Region:

Global

Solution:

Agentic AI
Retrieval-augmented generation
LLMOps

Core technology:

Claude Opus
Claude Sonnet
Claude Code
Microsoft Foundry
AWS
Agno

The Business

Global pharmaceutical company cut research time from days to minutes with an agentic AI assistant on Claude

AstraZeneca is a global pharmaceutical company whose research teams depend on fast, accurate, traceable access to scientific and clinical evidence. This spans drug discovery, clinical development and regulatory activity, where the quality and auditability of is critical.

The Challenge

Research teams were losing days collating information across fragmented sources - scientific literature (PubMed), clinical-trial registries (ClinicalTrials.gov, CTIS), internal documents and knowledge bases, and ERP data.

Solution

- Unified conversational assistant: A single agentic interface was built to query every source and synthesis responses from through one natural-language conversation.
- Claude Opus hosted on Microsoft Foundry provided the assistant's reasoning and tool-use core. Azure hosting ensured that the inference complied with the company's regulatory governance and data-residency controls.
- Agentic reasoning (Self-RAG): The agent interpreted intent, decided which tools were relevant, and then judged whether it had enough evidence and re-queried if not.
- Multimodal retrieval pipeline ingested and indexed messy clinical and scientific documents; schema inference enabled precise SQL querying of structured and tabular data. MCP provided a standard, model-agnostic layer for tool integration.
- Trustworthy, cited answers provided through validation against the retrieved documents to generate an auditable trail. DSPy optimised prompts, and LangSmith with OpenTelemetry traced every model call, tool invocation and query.

Benefits

- Exploratory data research time reduced from days to minutes.
- Every answer backed by mandatory, validated citations and a fully auditable trail.
- Enterprise-grade deployment running inside the company's own Azure governance, identity and data-residency boundary.

About Agilexi

Agilexi are specialists in Anthropic's native tooling - Claude, Claude Code, and the Claude Developer Platform - we build solutions that rapidly scale beyond proofs of concept into production-grade systems that deliver measurable results.